

ABSTRACT

A zoom lens made up of a first lens group having positive refracting power, a second lens group having negative refracting power, a third lens group having positive refracting power, and a fourth lens group having positive refracting power, which are disposed in order from an object side, in which the first lens group and the third lens groups are stationary, and the zoom lens performs mainly variable power by shifting the second lens group in an optical axis direction, and performs correction for image position fluctuations and focusing by shifting the fourth lens group in the optical axis direction, is characterized in that the first lens group is composed of five lenses: a concave lens; a convex lens with a strong convexity facing to an image side; a cemented lens made up of a concave lens with a strong concavity facing to the image side, and a convex lens; and a convex lens with a strong convexity facing to the object side, which are disposed in order from the object side, and by satisfying each of the following conditional expressions:

$$(1) \ 1.25 < h1-[[1]]4/h1-[[4]]1 < 1.55;$$

$$(2) \ d1-2/d1-3 < 0.4;$$

$$(3) \ 1.65 < n1-2; \text{ and}$$

$$(4) \ 0.1 < H1'/f1 < 0.6$$